REMARKS/ARGUMENTS

Claims 1 to 3, 7 to 10, 14, 15, 16, 18, 19, 21, 22, 24 and 26 are being examined. No claims are allowed. Claims 4 to 6, 11 to 13, 17, 20, 23 and 25 are cancelled.

The claims were subject to a Restriction Requirement Under 35 USC 121. The Applicants affirm the election of Claims 1 to 3, 7 to 10, 14, 16, 18 to 19, 21 to 22 and 26 in Group I. Claim 15 is included with elected claims since there was an error in the numbering which has been corrected. The election is without traverse.

The "Description of Drawings" was objected to due to informalities. Applicants have added description of Figures 1D and 1E to the specification as required.

Claims 1 to 3, 7 to 10, 14, 16, 18 to 19, 21 to 22, 24 and 26 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. The claims have been amended to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Reconsideration of the rejection is requested.

Independent Claims 1, 7, 8 and 14 have been amended to recite that the complex is formed in absence of any electrically conductive metal particles in the complex which were necessary as disclosed by Kim et al (Biosensor & Bioelectrics 14 907-915 (2000)). This is discussed on

page 2, lines 5 to 10 of the specification.

Claims 1 to 3, 7 to 10, 14, 16, 18 to 19, 21 to 22, 24 and 26 were rejected under 35 USC 102(b) as being anticipated by Kim et al. This rejection is overcome by the above amendment to independent Claims 1, 7, 8 and 14 to call for a complex without any conductive metal particles. Reconsideration of this rejection is requested.

Claims 1 to 3, 7 to 10, 14, 16, 18 to 19, 21 to 22, 24 and 26 are also patentable under 35 U.S.C. § 102(b) over Kim et al. Kim et al. makes clear that the metal particles (gold) are required for generation of the signal. Firstly, Kim et al. teaches that since the gold particles are surrounded with protein molecules, i.e. immunoglobulin and casein as blocking agents for reducing non-specific interaction, an ionic polymer shell is rendered on the outside of the gold. The shell may interfere with electron hopping, a dominant process of charge-transfer between the conducting mediators. The shell thickness exceeds the distance required for efficient electron relay so as to act as a barrier against conduction (Kim et al.: first paragraph of discussion, page 913). This reference would not lead a person of skill in the art to remove the gold particles, since they are required conducting mediators. Secondly, Kim et al. teaches that interfacial capacitance

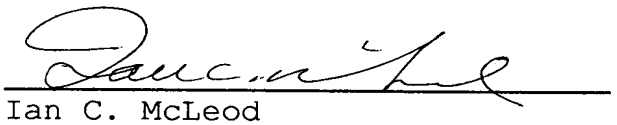
due to the presence of polymer strands on the surfaces of the gold particles is a major contributor to signal generation in a low range of the gold concentration (Kim *et al.*: first full paragraph, page 914). Again, this would not lead a person of skill in the art to remove the gold particles, since they are required to produce an interfacial capacitance. Finally, Kim et al. teaches that the strategy of having the conducting polymer in the colloidal gold-antibody conjugates is a better approach than the direct labeling of the antibody with the polymer by chemical reaction because, in such a case, the protein molecule itself does not contain available sites for electron relay (Kim et al.: conclusions, page 914). Therefore, one skilled in the art would be directed away from eliminating the metal (gold) particles based upon the teachings of this reference.

Claims 3, 10, 22, 24 and 26 were rejected under 35 USC 103(a) as being unpatentable over Kim et al in view of Roberts et al (U.S. Patent No. 5,958,791). Roberts et al teaches the use of marker encapsulated liposomes and lysing agents for the liposomes to release the marker as described at column 6, lines 52 to 65. It is not seen how the devices of Roberts et al could be used in the present invention. The use of liposomes is completely superfluous

to Applicants' device. Polyvinylpyrrolidone and other polymers are merely used as blocking agents to prevent non-specific binding (see column 13 and 14). Use of closely spaced electrodes are multiple arrays of electrodes are described in Roberts et al; however, they are used in a different manner. Thus, Claims 3, 10, 22, 24 and 26 would not be obvious to one skilled in the art from this combination of references, particularly since Kim et al teaches away from the claimed invention. Reconsideration is requested.

It is now believed that Claims 1 to 3, 7 to 10, 14, 15, 16, 18 to 19, 21 to 22, 24 and 26 are in condition for allowance. Notice of Allowance is requested.

Respectfully,



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